MANUAL
WAVENET-MANAGER

VERSION: April 2012

SimonsVoss technologies

MANUAL
WAVENET-MANAGER

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1.0 NOTE

SimonsVoss Technologies AG reserves the right to make modifications to the product without notice. For this reason descriptions and representations in this manual may differ from the latest versions of the product and software. As a general principle, the original German version shall apply in the event of any doubt. Subject to errors and misspellings.

You can find further information about SimonsVoss products in the Internet at: www.simons-voss.com

Access through a door may be denied if components are installed or programmed incorrectly. SimonsVoss AG will assume no liability for the consequences of incorrect installation, such as denied access to injured persons or persons at risk, damage to property or any other form of damage.

Individuals with electronic medical implants (pacemakers, hearing aids, etc.) must keep a minimum distance of 30 cm between the implant and network components and should be made aware of this in particular.
In the interests of safety, people with electronic implants should seek medical advice as to the potential hazards of radio components (868 / 915 MHz).

2.0 INTRODUCTION

The SimonsVoss WaveNet Manager allows wireless and/or cable-based networks to be set up independently. It is necessary to have comprehensive knowledge of the application (LSM), WaveNet technology and SV hardware components. Knowledge of IT administration, → TCP/IP, LAN / WAN and COM ports is also required.
The WaveNet Manager allows all network nodes (CentralNodes, RouterNodes and LockNodes) in a SimonsVoss wireless/cable network to be automatically addressed (hexadecimal address). Performing a scan will record all previously installed network nodes. Every component returns its own chip ID to the WaveNet Manager. A network structure is then mapped in the WaveNet Manager and the automatically generated hexadecimal addresses + chip IDs are displayed. This structure (= topology [hex address]) is transferred to the LSM when the WaveNet Manager is closed.
It is possible to import the topology (LSMWNNet_XXYY_NetID.csv) into LSM versions prior to 3.1 manually.
The selected locks are "networked" by means of the "Automatic Configuration" and can be managed by the application software (LSM).

A WaveNet that has been configured with the WaveNet Manager can be modified, extended or reset at any time.

The radio frequency for Europe and Asia is 868 MHz and there are 12 different radio channels available, while for the USA the radio frequency is 915 MHz and there are ten different radio channels. Two special frequencies are supported for Hong Kong and Malaysia.

Existing WaveNet installations that were not set up with the WaveNet Manager cannot be managed using the WaveNet Manager.

Up to 1790 routers can be addressed for each network (= network ID) and 25 LockNodes for each router in a wireless segment. 250 routers, and 250 LockNodes for each router, can be addressed in a cabled network.
LSM ≤ 3.X can only manage one network (= network ID).

Please note down the chip ID at each place of installation so that you have an overview of where the network nodes are located.
Please remember that it is important to maintain accurate documentation on an ongoing basis and to make regular backups of data in order to ensure reliable operation.

3.0 POSSIBLE NETWORK STRUCTURES IN WAVENET

TCP/IP, WLAN with WNM.RN.E(X), WNM.RN.W(X), WNM.CN.U(X) USB or WNM.CN.S(X) serial.
Wireless 868 MHz (915 MHz for the USA) and/or cabled RS485.

4.0 COMPONENTS

CentralNodes, RouterNodes and LockNodes must be WNM components. Only components beginning with "**WNM**" (order code) are suitable for auto-configuration.
WaveNet Manager: free Internet download → WWW.SIMONS-VOSS.COM.
Please ensure that only those WNM components are in the wireless range that are to be configured/programmed.
Locking plan software LSM → Locking System Management.

5.0 PROCEDURE

All locks (cylinders, SmartRelays etc.) must be correctly programmed and thus integral elements of the locking system.
When using LSM, the CommNode Server and the communication node(s) must have been set up correctly (if required).
WNM.RN.E(X) / WNM.RN.W(X) must be configured with the necessary network parameters (IP address, gateway, SSID etc.).
All required drivers must already be installed. If necessary, set up VPN for LAN/WAN.

6.0 SYSTEM REQUIREMENTS

GENERAL

- Local administrator rights for installation
- TCP/IP communication (with NetBios activated), LAN (recommended: 100 MBit/s)
- Windows domain
- Acrobat Reader (for the help function)

CLIENT | MINIMUM HARDWARE REQUIREMENTS

- Monitor min. 19” (or larger for viewing in matrix view)
- Processor: 2.66 GHz (or faster)
- 2 GB RAM (or more)
- Client operating system (fixed IP address, name resolution for LSM)
- MS Windows XP Prof. SP3
- MS Windows Vista Business
- MS Windows 7 Professional
- NET Framework 2.0 (for LSM)
- RS-232 and / or USB interface / LAN connection
- 1024 x 768 resolution

7.0 WAVENET MANAGER SOFTWARE INSTALLATION

The WaveNet Manager should be installed in the same installation directory as the LSM.

8.0 LAUNCHING WAVENET MANAGER

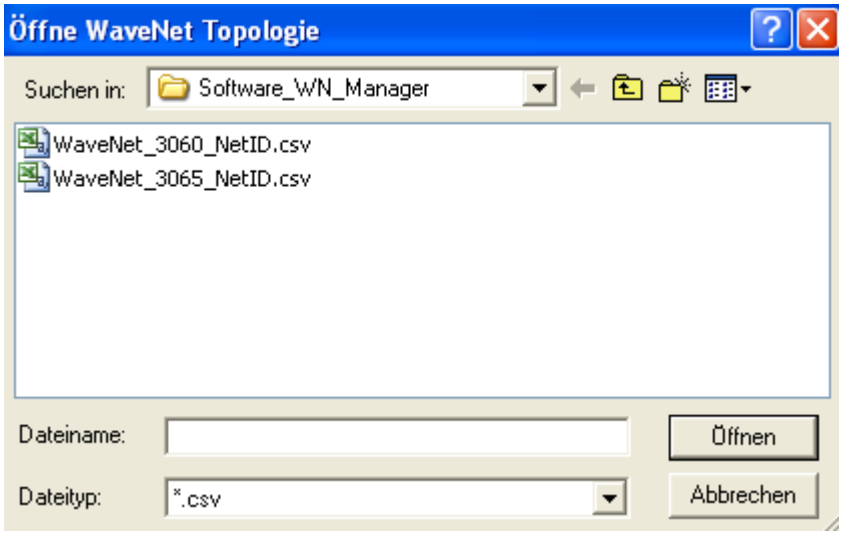
8.1 MANUALLY

Execute file "WaveNetManager.exe".

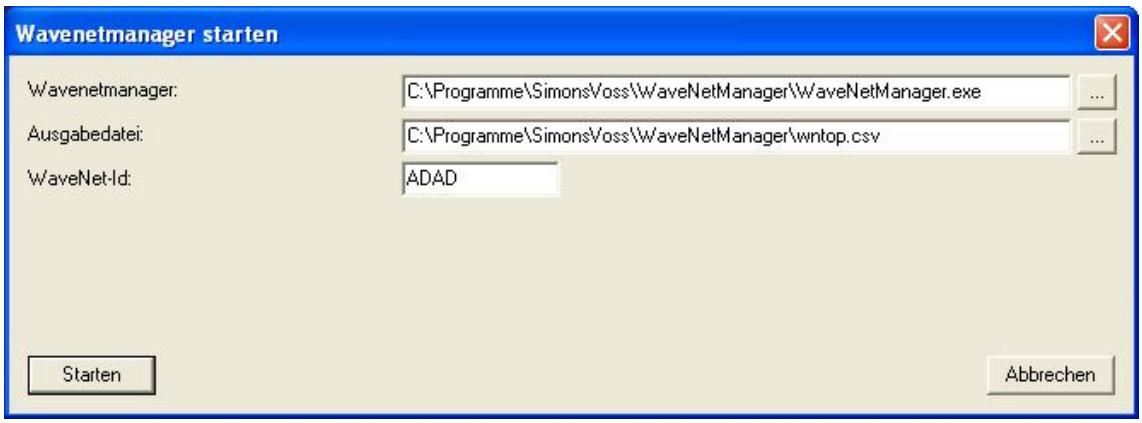
appcfg.xml	1 KB	XML-Dokument	10.02.2011 11:59
boost_threadmon.dll	24 KB	Programmbibliothek	23.07.2002 18:15
msgcfg.xml	1 KB	XML-Dokument	10.02.2011 11:59
MSVCRTD.DLL	377 KB	Programmbibliothek	16.06.1998 23:00
netcfg.xml	2 KB	XML-Dokument	10.02.2011 11:59
WaveNet_3065_NetID.csv	1 KB	Microsoft Office Exc...	10.02.2011 11:59
WaveNetManager.exe	456 KB	Anwendung	08.02.2011 12:33
WNIPDiscoveryLib.dll	32 KB	Programmbibliothek	26.04.2010 10:10
WNManager.ini	1 KB	Konfigurationseinst...	07.02.2011 15:54

If there is more than one WaveNet topology, a dialogue box will be displayed for the appropriate network to be selected. If no topology is selected (<Cancel>), the Wave-Net Manager will start and a new network can be created.

This dialogue will not be displayed when the WaveNet Manager is called from LSM.

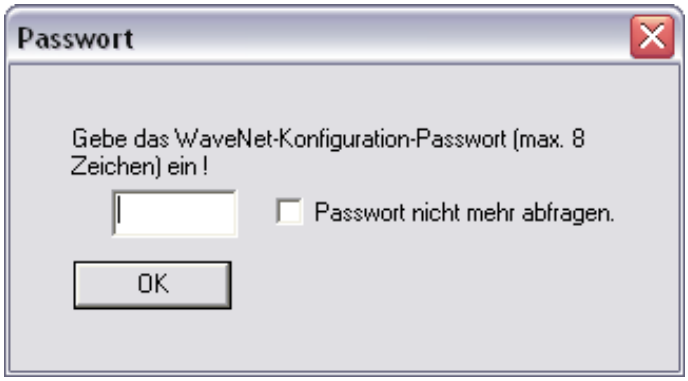


8.2 FROM LSM



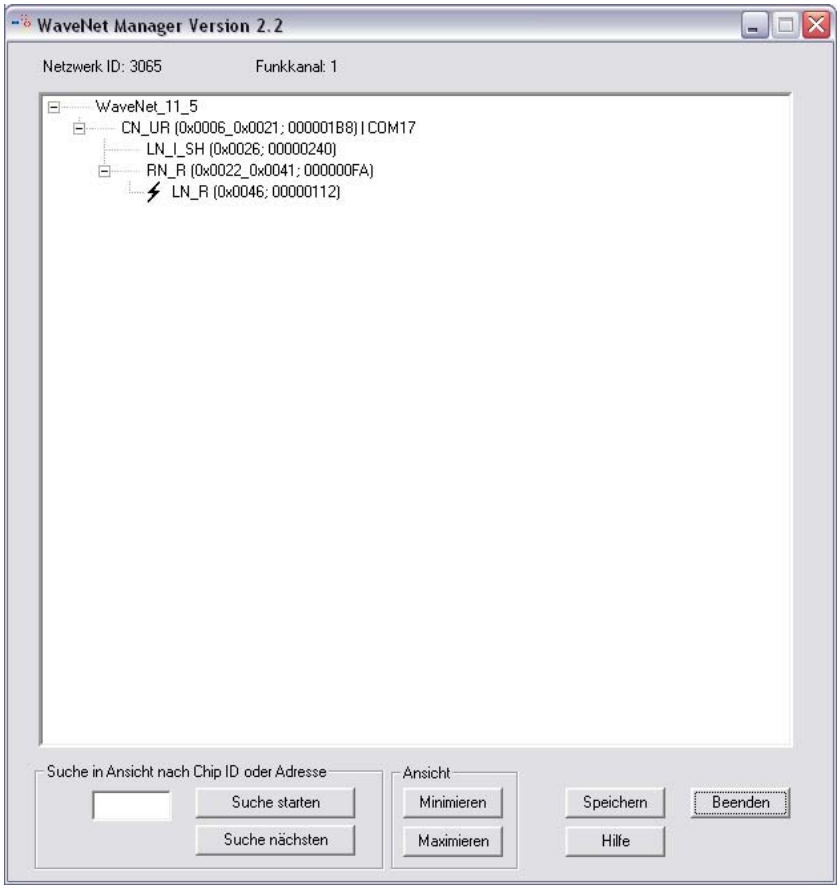
9.0 PASSWORD

The password is freely selectable and comprises 1 – 8 characters. It is programmed into all WaveNet components. It is **not** possible to change the password subsequently. It is required to prevent existing/other networks from being reprogrammed by mistake.



10.0 WAVENET-MANAGER

10.1 NETZWERK ID



The standard network ID is: DDDD (default). All unprogrammed WaveNet components have this network ID. A new network ID must be assigned manually at a later point in time (please refer to section 10.3).

A lightning icon indicates that the configuration for these components in this segment could not be performed (please also refer to section 11.1).

10.2 RADIO CHANNEL

All unprogrammed WaveNet components have a default frequency (default radio channel). A different radio channel must be assigned manually at a later point in time. The default radio channel is always used in addition to the one selected manually. This allows new components to be added in existing wireless networks. Signals are therefore transmitted at times successively over two different frequencies. Only one frequency is used in normal operation.

10.3 WAVENET

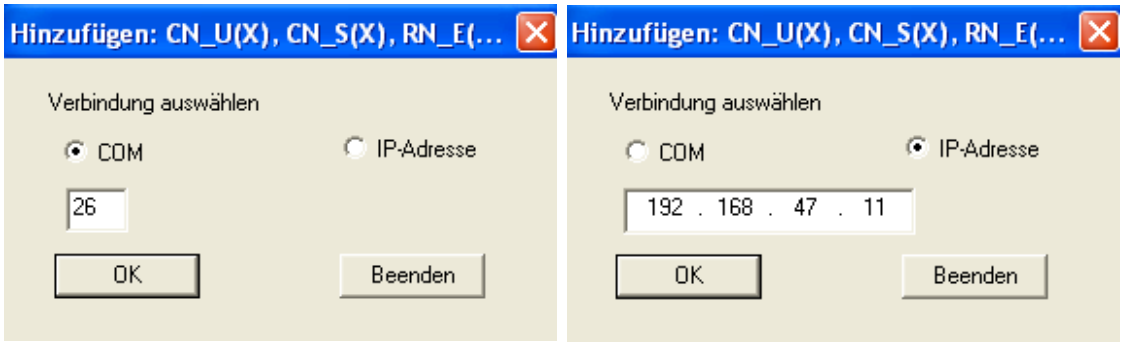
Administration can be launched with a double-click or a right-click on "WaveNet_11_5" or “WaveNet_8_8” (in the WaveNet Manager).

Refresh topology: Automatic configuration of the entire network and subsequent display in the WaveNet Manager with hexadecimal address and chip ID of all network nodes/components reached. This can take several minutes depending on the size.

Find CN_U(X), RN_E(X) or RN_W(X): Only these components will be searched for (please refer to section 11.2 Results of search operation).

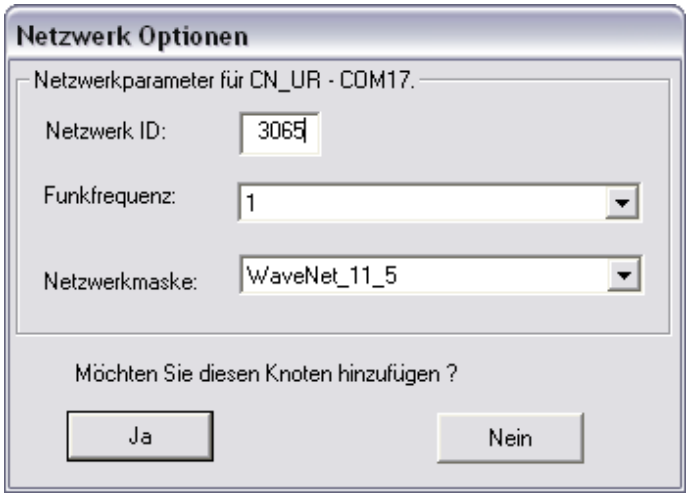
Find chip ID: Search for a component using the chip ID in the entire network/topology.

Add: CN_U(X), CN_S(X), RN_E(X) or RN_W(X): These components are added to the topology direct via a COM port or IP address.



WaveNet Statistics: Displays all configured WN components.

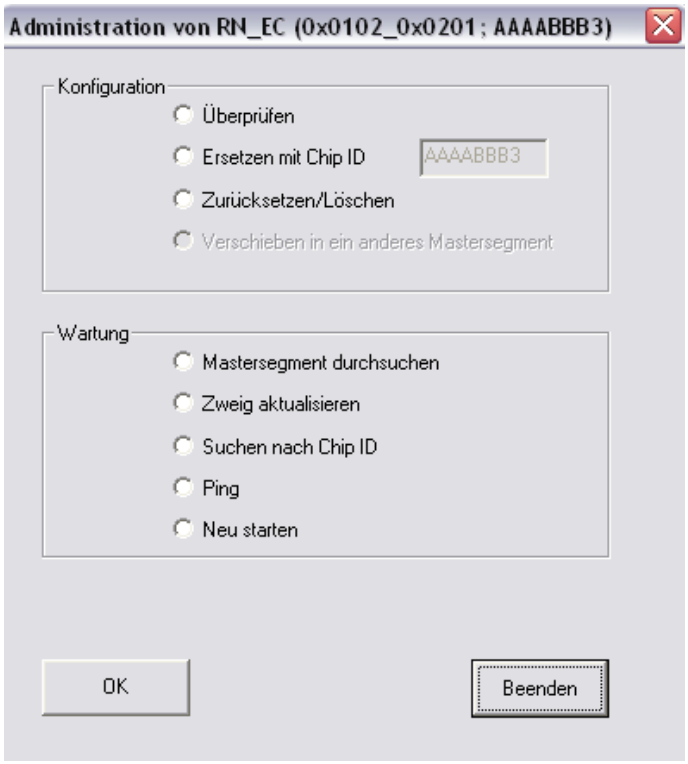
A network ID must be entered if a **new** network is to be detected or created. Possible characters are 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F, with a maximum of four characters. Addresses 0000, 0001, DDDD and FFFF are not allowed as network ID. A radio frequency must also be selected. Channels 1 – 10 are available for this. Channels 11 and 12 are special frequencies that may be used for Hong Kong and Malaysia. Channels 11 and 12 may also be used in Europe. The network mask can also be specified, thus determining the number of segments.
If the dialogue is closed with "Yes", the network ID and radio frequency will be programmed into the new components. This dialogue window will not be displayed for existing networks. Using the network mask determines future addressing (address and mask).



11.0 ADMINISTRATION CENTRAL-, ROUTER- AND LOCKNODES

11.1 CN_U(X), CN_S(X), RN_E(X), RN_W(X) – KONFIGURATION

Administration can be launched with a double-click or a right-click on a CentralNode (in the WaveNet Manager).



Check: The configuration of the component concerned will be checked.

Replace with chip ID: If you wish to replace a component, you can enter the chip ID in order to add the new component to the selected segment. The configuration will be transferred to the new network node. Please note:

1. Replace is possible immediately if the IP address of the CentralNode has changed.
2. If the IP address remains the same, both segments (slave/master) must first be removed from the LSM application (WaveNet administration).
3. It is possible to perform a replace if the COM port changes, but the new COM port must be entered in the LSM (local connection device).
4. If the COM port remains the same, both segments (slave/master) must first be removed from the LSM (WaveNet administration).

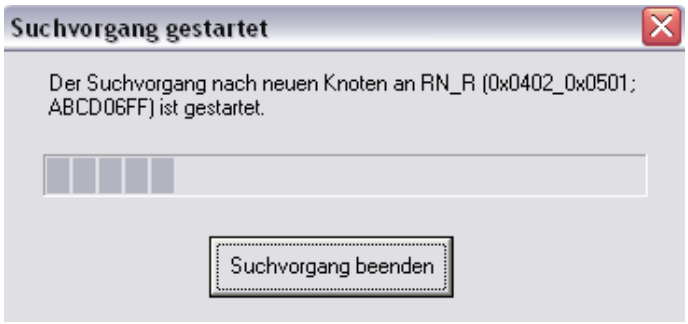
If an icon is displayed for a component, an attempt can be made to programme a new configuration to add to the selected master segment **without** changing chip ID.

Reset/delete: The selected component is reset and then deleted from the WaveNet Manager view. The component then possesses the default configuration (default network ID: DDDD / radio channel: default).

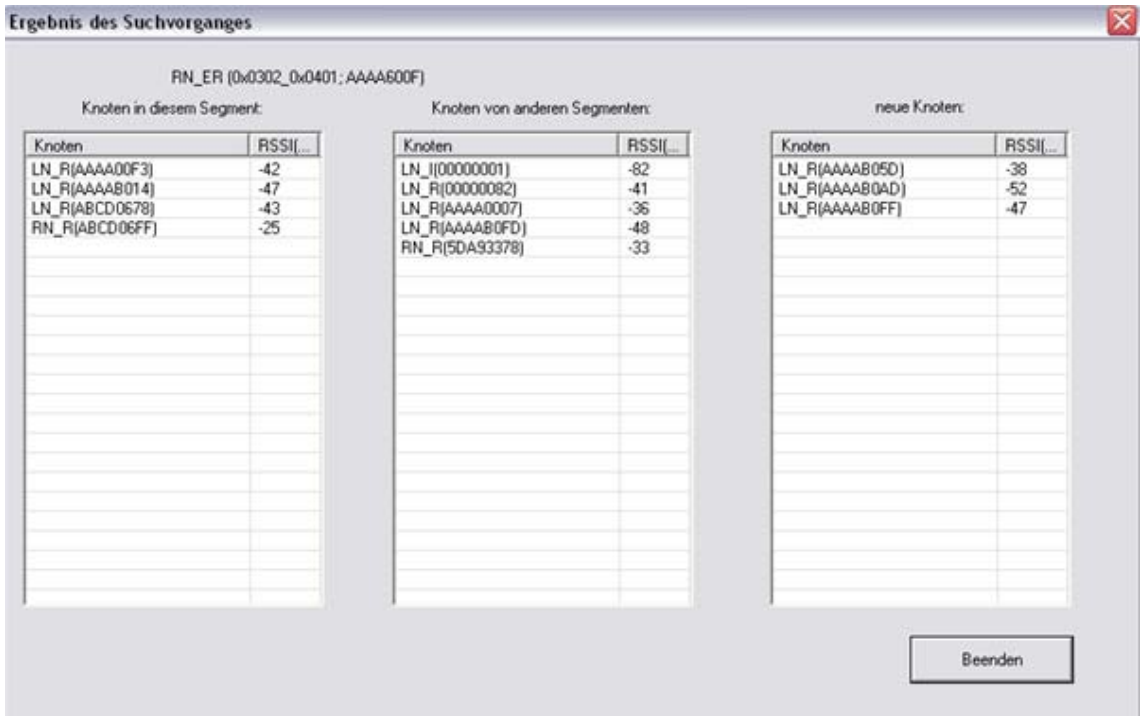
Move to a different master segment: Not possible.

11.2 CN_U(X), CN_S(X), RN_E(X), RN_W(X) – WARTUNG

Search master segment:


Suchvorgang gestartet
Der Suchvorgang nach neuen Knoten an RN_R (0x0402_0x0501; ABCD06FF) ist gestartet.
Suchvorgang beenden

Result of search operation: Results in an overview and possible configuration in this master segment.



The three columns describe and evaluate (RSSI) the components/nodes reached in the selected master segment. The RSSI value for cabled segments is always 0 (zero).

Nodes in this segment: This column displays all components/nodes that are managed by the previously selected master segment.

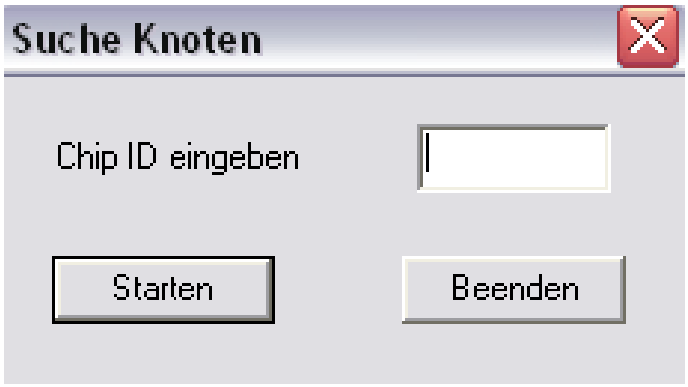
Nodes in other segments: This column displays all nodes whose radio signals can be detected by the master segment but which do **not** belong to the master segment.

New nodes: This column displays all new nodes that have not yet been assigned to a master segment. The nodes can be assigned to this master segment either with a double-click or by dragging them into the first column (nodes in this segment). Assignment may take a few seconds or a few minutes since the routing table must be refreshed.

RSSI (dBm): **R**eceived **S**ignal **S**trength **I**ndication = strength of the signal received → an indicator of the received field strength. The more negative the value in dBm, the poorer the radio signal quality that can be expected.

Refresh branch: Not programmed components are automatically incorporated into the branch via the RSSI value.

Find chip ID:



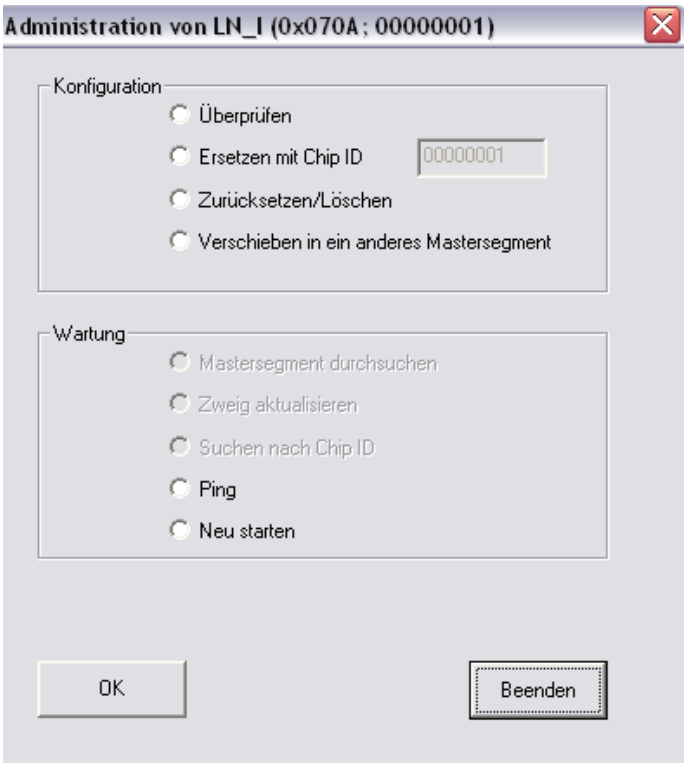
After selection of a master segment, a further component can be searched for via chip ID. The selected master segment and segments below it are searched.

Ping: An availability test is performed for the selected component.

Reboot: Reboots the selected component.

11.3 LN_(X) CONFIGURATION

Administration can be launched with a double-click or a right-click on a LockNode (in the WaveNet Manager).

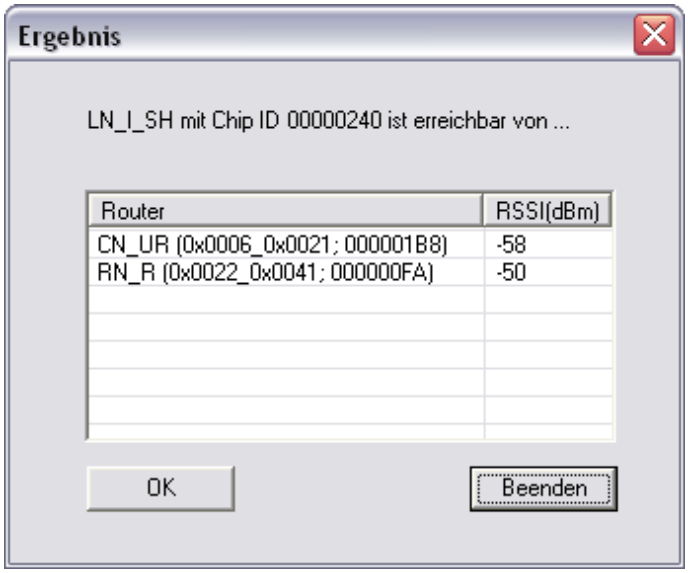


Check: The configuration of the component concerned will be checked.

Replace with chip ID: When a component is replaced, you can enter the chip ID in order to add the new component to the selected segment. The configuration will be transferred to the new network node.
If an icon is displayed for a component, an attempt can be made to programme a new configuration to add to the selected master segment **without** changing chip ID.

Reset/delete: The selected component is reset and then deleted from the WaveNet Manager view. The component then possesses the default configuration (default network ID: DDDD / radio channel: default).

Move to a different master segment: Possibility to check the connection and possibly move it to another segment.



As a general rule, the more negative the RSSI value the poorer the radio connection. A double-click – or selection and subsequent confirmation with OK – can be used to move the LN_(X) / RN_(X) to another segment. The routing table will be automatically refreshed when routers are added.

When moving RN_(X), an ! (exclamation mark) may precede a router, indicating that it cannot be selected. The reason for this is that a network structure already exists. Such a router is only displayed for the sake of completeness.

12.0 RESETTING CENTRALNODES/ROUTERNODES, LN.R/C

12.1 ONLY WAVENET CONFIGURATION OF CENTRALNODES AND ROUTERNODES

1. Remove the power supply (unplug)
2. Wait 20 seconds
3. Remove the cover (4 screws)
4. Press the button on the board (near the plug for the power supply) **and** hold it pressed
5. Reconnect the power supply (plug)
6. Release the button when the red LED lights up (after approximately two seconds)
7. The WaveNet configuration has been reset (default)

12.2 RESETTING THE TCP/IP CONFIGURATION RN.E(X)/RN.W(X)

1. Remove the power supply (unplug)
2. Wait 20 seconds
3. Remove the cover (4 screws)
4. Press the button on the board (near the plug for the power supply) **and** hold it pressed
5. Reconnect the power supply (plug)
6. Hold the button pressed until red and green LEDs flash alternately
7. Release the button
8. The TCP/IP configuration has been deleted

12.3 RESETTING THE TCP/IP CONFIGURATION RN.E(X)/RN.W(X)

9. Remove the power supply (unplug)
10. Wait 20 seconds
11. Remove the cover (4 screws)
12. Press the button on the board (near the plug for the power supply) **and** hold it pressed
13. Reconnect the power supply (plug)
14. Hold the button pressed until red and green LEDs flash alternately
15. Release the button
16. The TCP/IP configuration has been deleted

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This product fulfills essential requirements of CE-Conformity.
The declaration of conformity can be found at
www.simonsvoss.com